

FIG. 1A

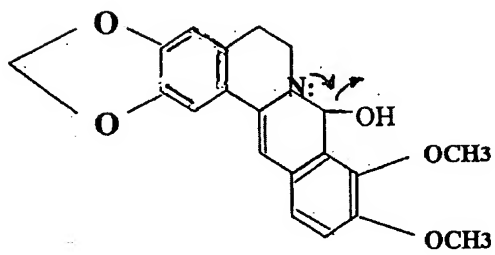


FIG. 1B

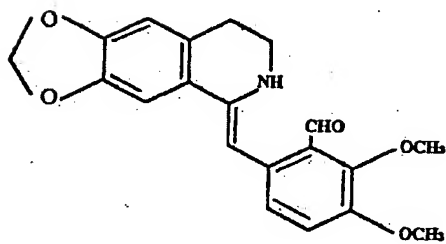


FIG. 1C

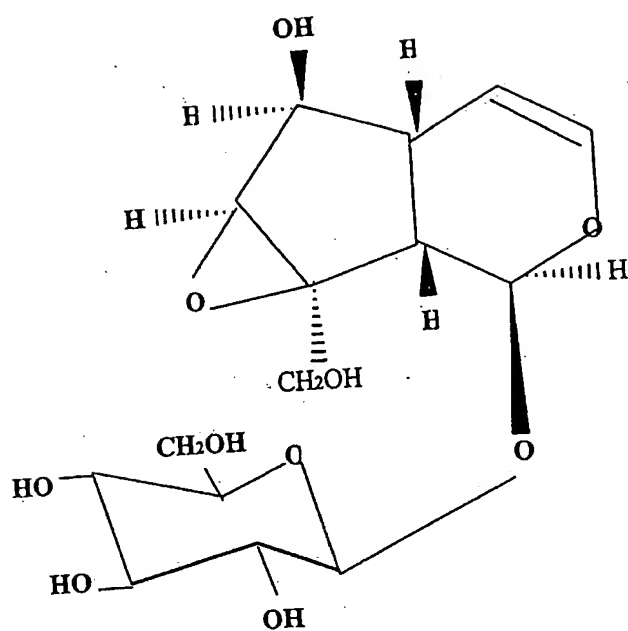


FIG. 2

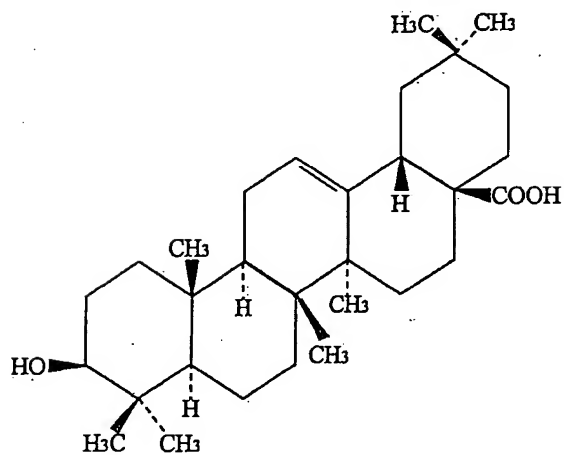


FIG. 3

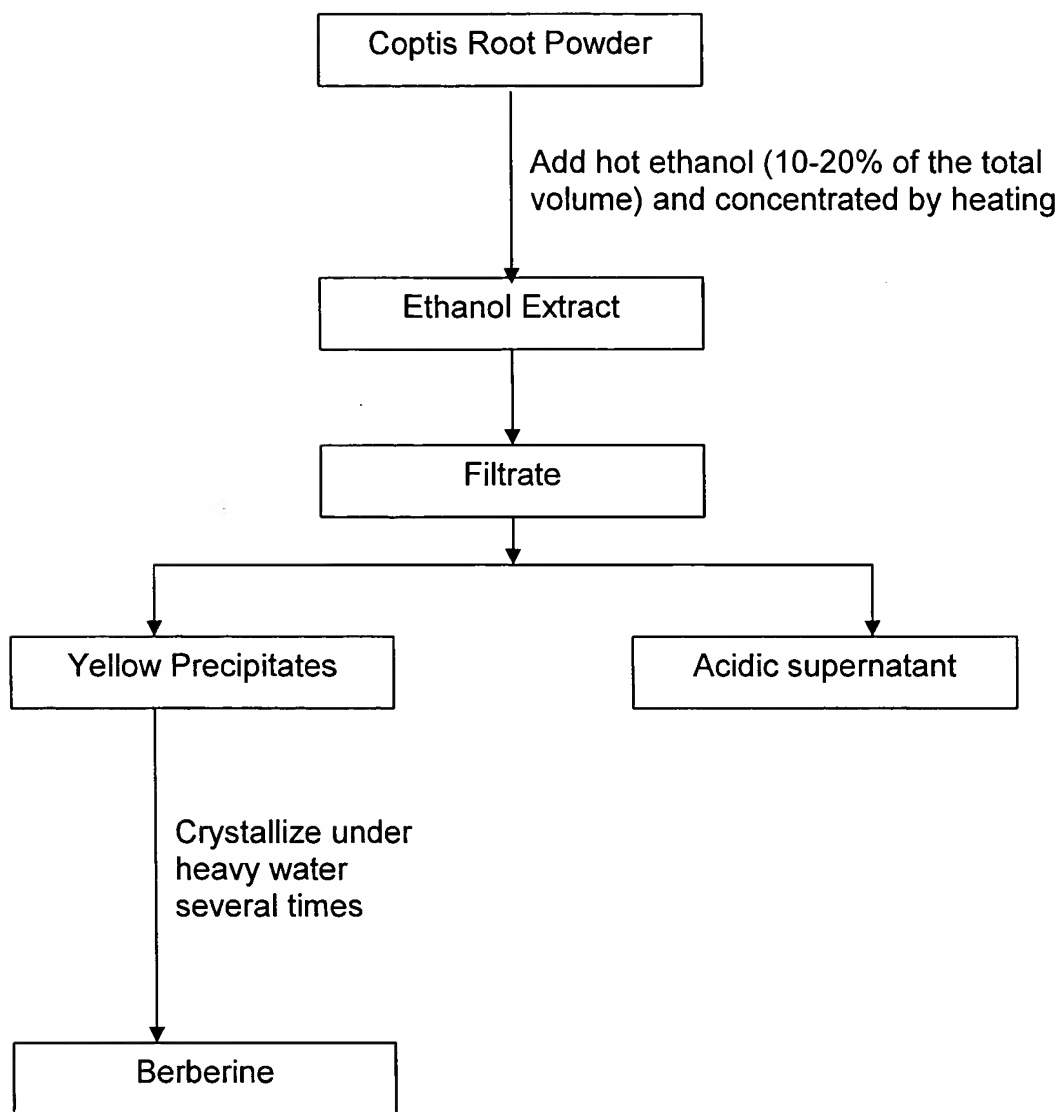


FIG. 4

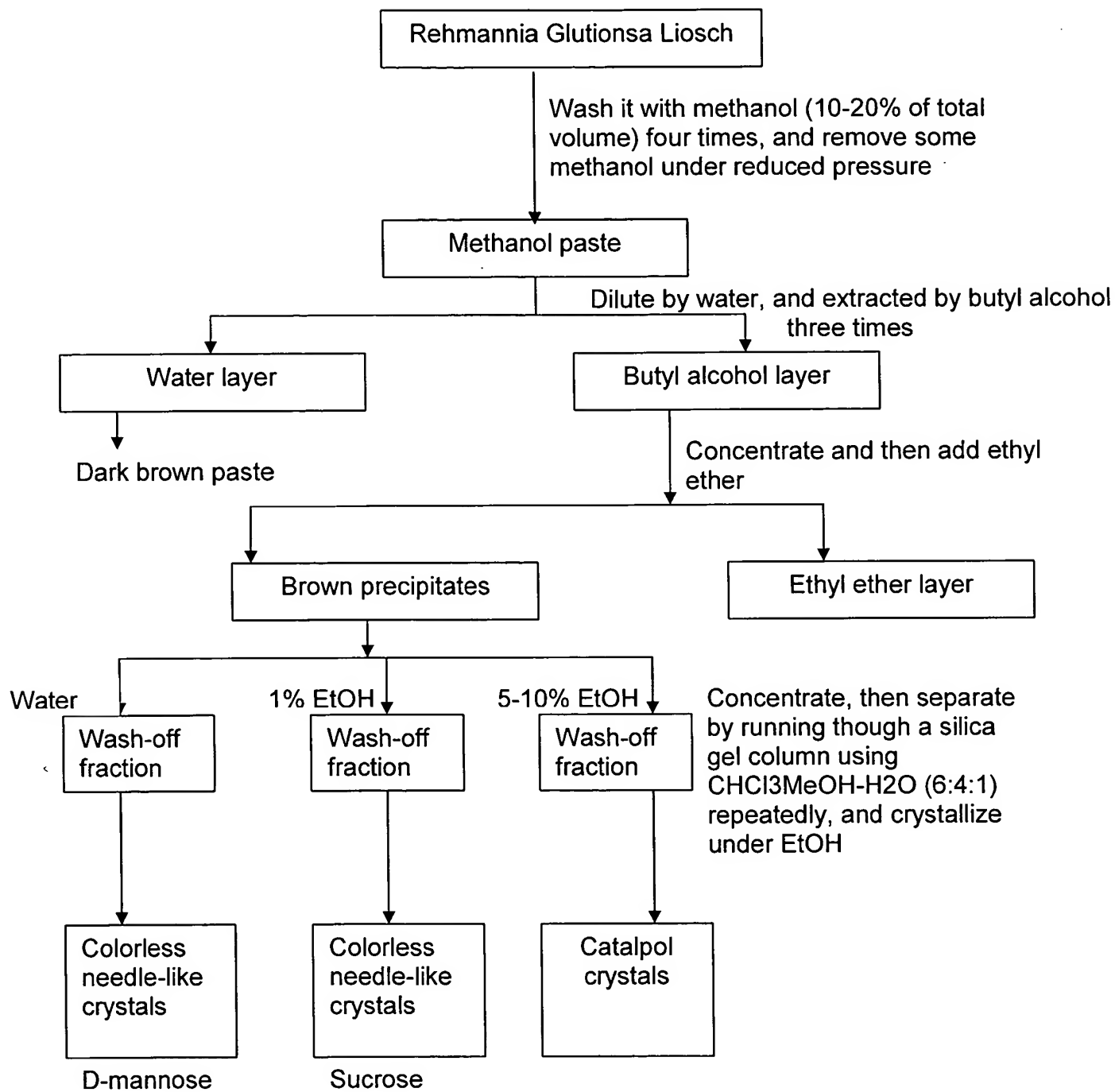


FIG. 5

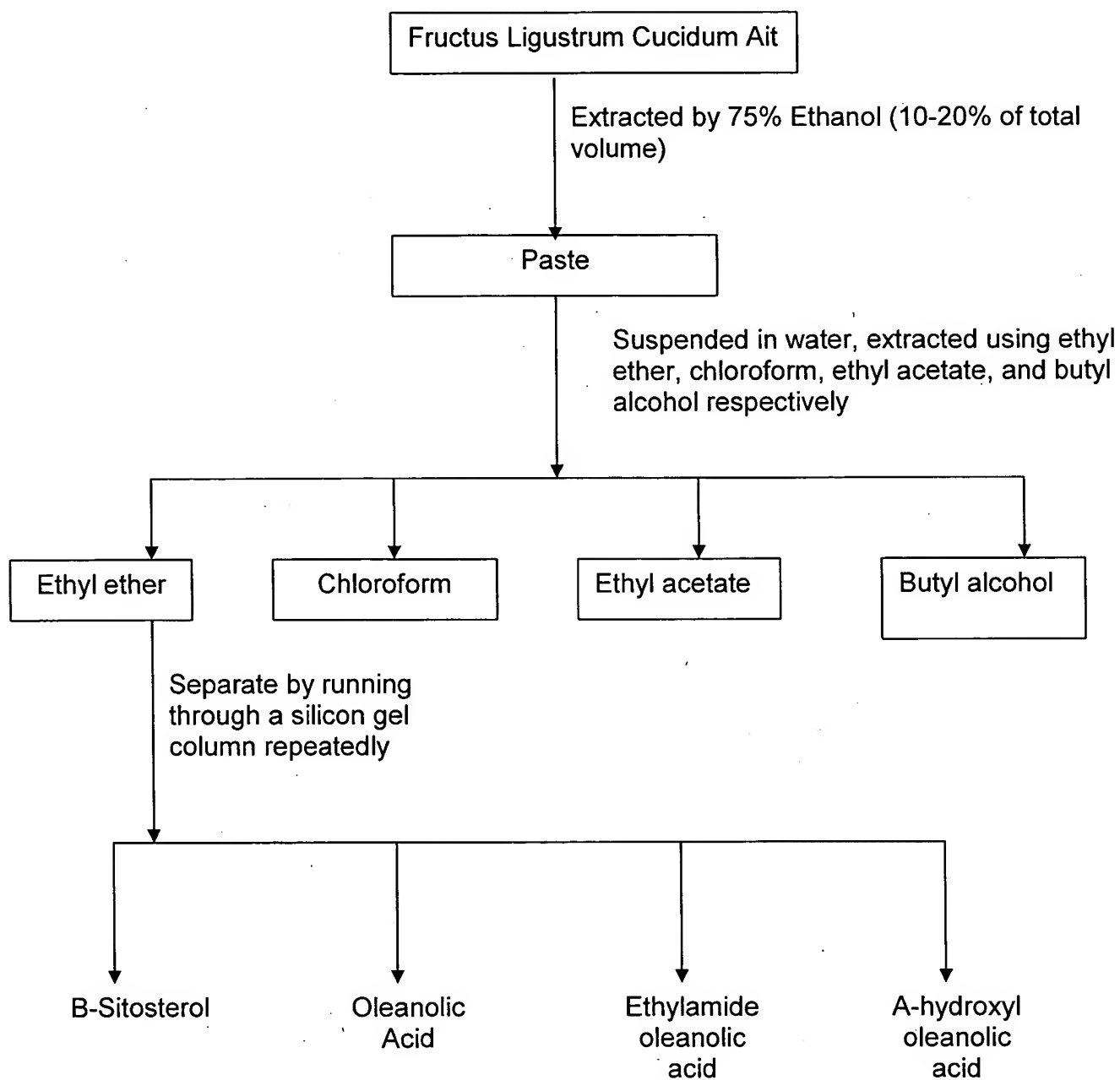


FIG. 6

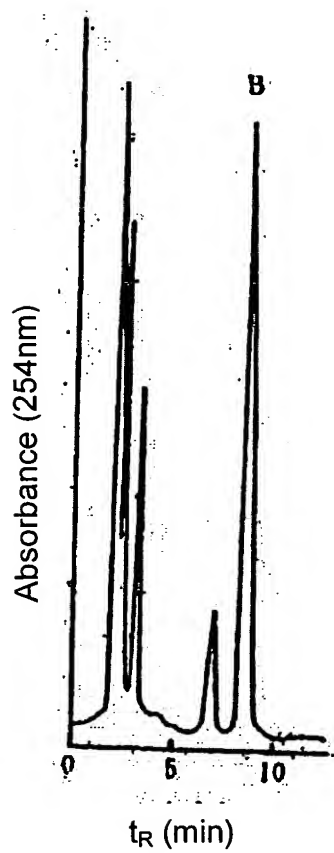


FIG. 7

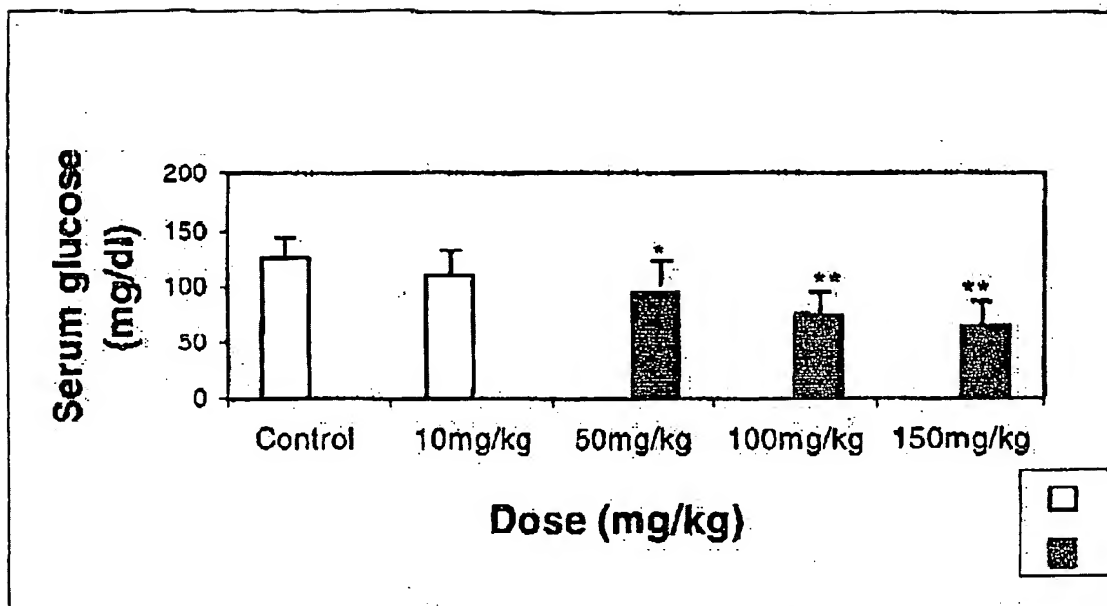


FIG. 8

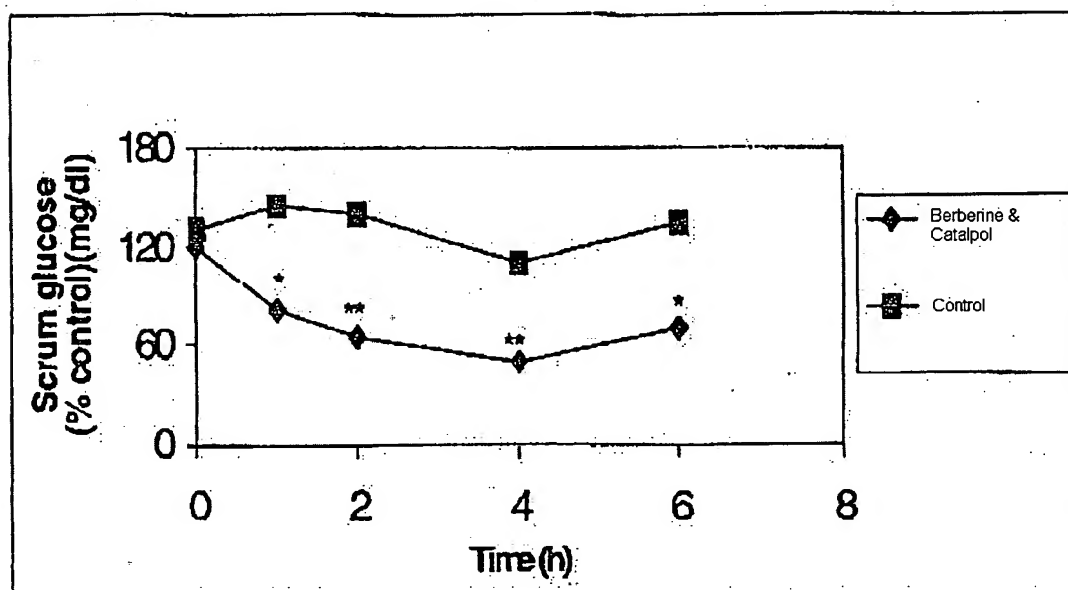


FIG. 9

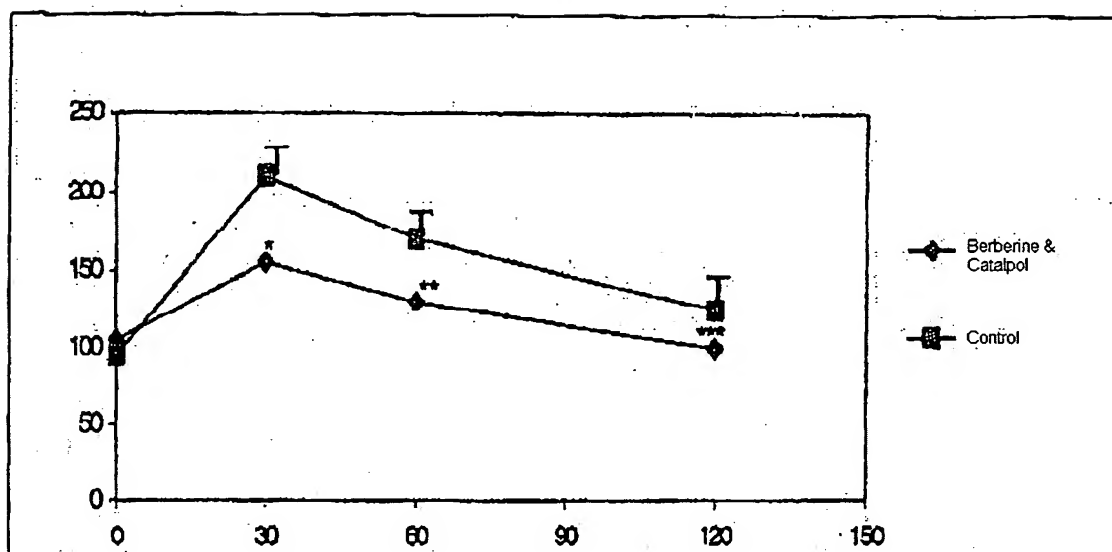


FIG. 10

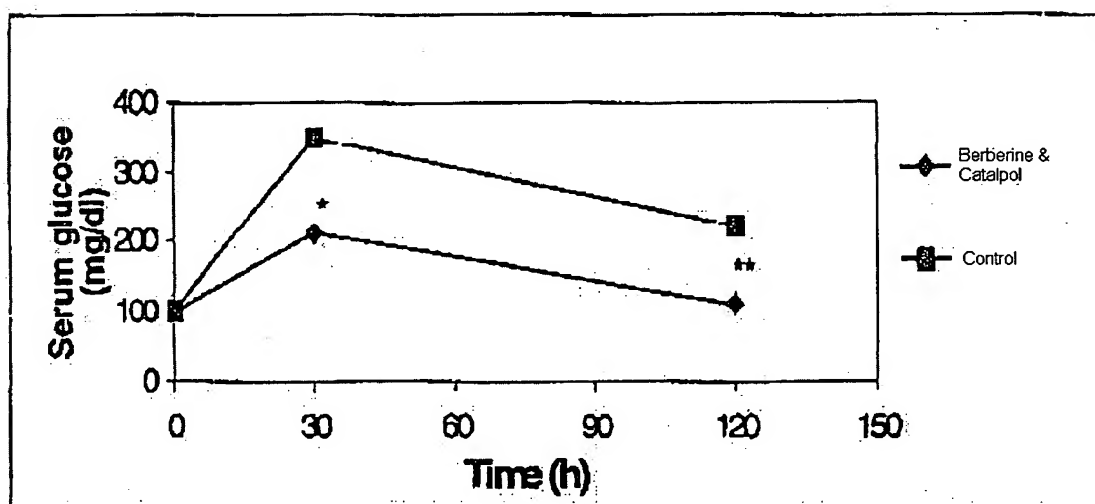


FIG. 11



Table 1: Effects of Berberine and Catalpol on Plasma sugar levels of Mice

	Plasma Glucose Level after Injections				
Days	7	14	21	28	38
Berberine/catalpol (n=20)	90.21*	94.38*	82.47*	90.34*	97.21*
Control (n=12)	185.96	189.21	182.33	188.45	195.28

\* p<0.01

## FIG. 12

Table 2: The effects of berberine and catalpol on Insulin beta Cell Count

	The count of various grade groups					
Group	Ineffective	Improved	Clearly Effective	Controlled	Total	Average
Control (n=12)	9	3	0	0	33	2.75
Berberine and catalpol (n=20)	0	2	5	13	15.5	0.775**

P<0.01

## FIG. 13

Table 4: The effects of berberine and catalpol (50mg/kg/dl) on plasma glucose level of normal mice (X $\pm$ SD)

	Plasma Glucose (mg/dl)	
	Control (no drug)	Berberine and catalpol administration
One time administration	130.8 $\pm$ 22.6 (n=10)	72.4 $\pm$ 31.1 (n=10)*
Seven day administration	135.6 $\pm$ 36.3 (n=9)	74.6 $\pm$ 22.3 (n=9)*

\*p<0.01

## FIG. 14

Table 5: Effects of berberine and catalpol on plasma glucose level elevation caused by adrenaline (10 mice in each group X + SD)

Group	Dose (mg/kg)	Plasma glucose (mg/dl)
Saline only	Not applicable	167.4 $\pm$ 18.5
Adrenaline only	0.02 iP	225.1 $\pm$ 51.2
Adrenaline and berberine and catalpol	002, iP & 50, PO	172.6 $\pm$ 26.8*

\*p<0.02

## FIG. 15

Table 6: Effect of berberine and catalpol (50 mg/kg/dl) on the plasma glucose level of the tetraoxide alloxan diabetic mice

Day	Plasma glucose level (mg/dl)	
	Control	Berberine and catalpol
1	295.3 $\pm$ 72.2	153.2 $\pm$ 81.2*
5	531.8 $\pm$ 84.5	320.2 $\pm$ 96.3**
10	478.2 $\pm$ 61.4	150.6 $\pm$ 56.5***

\*p<0.01

\*\*p<0.02

\*\*\*p<0.001

## FIG. 16

Table 7: Effect of berberine and catalpol on platelet aggregation of rabbits in vitro (X  $\pm$  SD, n=6)

Dose (ug/ml)	Aggregation (%)	Inhibited Aggregation (%)
0	43.2 $\pm$ 2.1	Not Applicable
40	36.1 $\pm$ 6.2	20.1 $\pm$ 13.5
80	32.6 $\pm$ 5.6*	26.3 $\pm$ 12.8
100	20.1 $\pm$ 4.2**	51.2 $\pm$ 10.2
160	15.2 $\pm$ 5.2**	66.4 $\pm$ 12.8
200	7.6 $\pm$ 3.6***	85.6 $\pm$ 9.6

\*p<0.05

\*\*p<0.01

\*\*\*p<0.001

## FIG. 17

Table 8: Changes of plasma sugar, cholesterol, lipoprotein and apolipoprotein of the participated groups

Items	Treatment (n=60)	Control (n=40)	Normal (n=40)
FPG (mmol/l)			
Before treatment	13.4 $\pm$ 3.67	12.98 $\pm$ 3.10	8.95 $\pm$ 2.33
After treatment	6.10 $\pm$ 2.10**	8.90 $\pm$ 2.70	8.77 $\pm$ 3.21
TC (mmol/l)			
Before treatment	5.99 $\pm$ 0.73	5.71 $\pm$ 0.64	5.61 $\pm$ 0.27
After treatment	4.23 $\pm$ 0.51**	5.62 $\pm$ 0.35	5.59 $\pm$ 0.42
TG (mmol/l)			
Before treatment	2.67 $\pm$ 0.38	2.25 $\pm$ 0.31	2.27 $\pm$ 0.48
After treatment	1.02 $\pm$ 0.31**	2.24 $\pm$ 0.47	1.57 $\pm$ 0.33
HDL-C (mmol/l)			
Before treatment	1.01 $\pm$ 0.10	1.18 $\pm$ 0.25	1.12 $\pm$ 0.20
After treatment	2.10 $\pm$ 0.22**	1.24 $\pm$ 0.16	1.98 $\pm$ 0.18
LDL-C (mmol/l)			
Before treatment	4.90 $\pm$ 0.37	4.10 $\pm$ 0.27	4.02 $\pm$ 0.16
After treatment	3.02 $\pm$ 0.28**	4.03 $\pm$ 0.38	3.43 $\pm$ 0.20
APO A1 (g/l)			
Before treatment	1.01 $\pm$ 0.21	1.02 $\pm$ 0.07	1.05 $\pm$ 0.11
After treatment	1.32 $\pm$ 0.12*	1.05 $\pm$ 0.05	1.29 $\pm$ 0.21*
APO B (g/l)			
Before treatment	1.02 $\pm$ 0.25	1.08 $\pm$ 0.36	0.99 $\pm$ 0.24
After treatment	0.69 $\pm$ 0.18*	1.01 $\pm$ 0.27	0.67 $\pm$ 0.36*

\*p<0.05

\*\*p<0.01

FIG. 18

Table 9: Hematological properties of the treatment group and control group before and after treatment ( $\bar{X} \pm SD$ )

Items examined	Treatment group (n=60)	Control group (n=40)
Whole blood viscosity (mPa-S)		
Before treatment	6.98 $\pm$ 0.91	6.95 $\pm$ 1.26
After treatment	4.10 $\pm$ 0.69	6.68 $\pm$ 1.10
Blood plasma viscosity (mPa-S)		
Before treatment	1.94 $\pm$ 0.42	1.93 $\pm$ 0.55
After treatment	1.37 $\pm$ 0.35	1.89 $\pm$ 0.35
Fibrinogen (g/l)		
Before treatment	4.20 $\pm$ 1.07	4.19 $\pm$ 1.31
After treatment	3.16 $\pm$ 1.05	4.11 $\pm$ 1.18
Hematocrit (%)		
Before treatment	49.28 $\pm$ 7.25	49.20 $\pm$ 7.39
After treatment	40.26 $\pm$ 4.67	47.02 $\pm$ 6.28

FIG. 19